

SGIP Plays Key Role in White House's Green Button Initiative

When members of the Smart Grid industry first heard the challenge laid down by the Administration through U.S. Chief Technology Officer Aneesh Chopra last September, they couldn't have envisioned the incredibly fast pace at which events would unfold. His challenge? To develop a simple way for consumers to have access to their own energy usage information in a downloadable, easy-to-use electronic format. Now, just six months later, the Administration's idea has been transformed from a simple concept to initial implementations that are already available to millions of consumers, and will be soon available to millions more. And the Smart Grid Interoperability Panel (SGIP) has played—and will continue to play—a key role in this process.

"Building on the SGIP's success in coordinating and accelerating energy usage information standardization, we have worked with early adopters in California and other SGIP members to propel the Green Button into implementation," said David Wollman, NIST lead for the SGIP Green Button initiative, along with his tech champion lead from the EnerNex SGIP Administrator team, Marty Burns. "And now we are working to keep the momentum going with a new SGIP priority action plan (PAP) to support the Green Button with improved standards, testing and certification, and reference implementations."

What is the Green Button?

The Green Button refers to the straightforward, standardized mechanism by which consumers can securely download their own household or building energy usage information from their utility website in a human- and machine-to-machine readable electronic format. With this information at their fingertips, consumers are enabled to make more informed decisions about their energy use and, when coupled with opportunities to take action, empowered to more actively manage their energy use.

By providing the ability for consumers to download and share their data with third parties who are prepared to accept the data and provide additional analysis and services, it is anticipated that innovative new consumer applications and devices from entrepreneurs, large companies, and even students will bubble to the surface. For example, thermostats can be customized for savings and comfort, the size of rooftop solar panels can be optimized, the value of investments in structural energy efficiency can be verified, and entrepreneur-created web portals can analyze an individual's energy usage and provide actionable tips.

As demonstrated by the positive responses, early successes, and new Green Button commitments announced today at a White House event (see related news release, <http://www.whitehouse.gov/administration/eop/ostp/pressroom/03222012>), the Green Button is well on its way to becoming a household word. Whether you are a consumer, utility representative, or service or application provider, you can find helpful details about Green Button online (<http://www.greenbuttondata.org>).

The path to energy usage information standardization is a major SGIP success story, and its history goes back several years before the Green Button challenge—the "tipping point" moment came at meetings held by SGIP's PAP10, "Standard Energy Usage Information."

Developing the Energy Usage Information Standard

In the years leading up to 2009, the potential value of energy usage information inspired many companies to approach utilities with proposals for often-proprietary third-party interfaces. Because energy usage information was captured at that time in so many different formats across the thousands of U.S. utilities, the task was daunting. In 2009, a group of companies met to propose the development of a standard that would allow energy usage information to be described in a uniform and consistent way across the industry. This group of technical experts was expanded to include interested participants from many different parts of the new Smart Grid community and found a home in the newly-formed SGIP, where PAP10 was formed. Throughout 2010, PAP10 worked to collect and merge the different requirements of the participating groups, and to forge a path to meet the needs of these multiple standards efforts with a seed energy usage information model standard. The seed standard was ultimately developed by working with the North American Energy Standards Board (NAESB), which served as the standards development organization (SDO).

Those meetings, held both face-to-face and as teleconferences and webinars, were not always smooth and pleasant, recalls David Wollman, the NIST lead for the SGIP PAP10 effort. “By encouraging participants to actively but respectfully argue and get their issues on the table, we were eventually able to broker a reasonable compromise.”

Once a consensus was reached to work within NAESB, the process accelerated. NAESB approved the PAP10 energy usage information standard in December 2010. This was an information model standard, a “seed standard” for other standards to use. By mid-2011, the SGIP had completed its standards review process, and in July 2011 the standard became one of the first standards voted into the SGIP’s Catalog of Standards. The PAP10 energy usage information standard was then taken up by NAESB Req 21, Energy Services Provider Interface (ESPI), which was ratified in October 2011 and now provides the standards basis for Green Button.

What the ESPI Standard Does

The ESPI standard describes how to represent energy usage information in XML format, as well as how to enable exchange of that information between utilities and third parties on behalf of consumers. Together these define a flexible file format for Green Button based on ratified standards from NAESB.

The initial implementations of Green Button are narrowing in on a specific subset of ESPI and energy usage information for its realization. For more technical details about the energy usage information standard and the Green Button, please visit the collaborative TWiki website (<http://collaborate.nist.gov/twiki-sggrid/bin/view/SmartGrid/GreenButtonInitiative>).

What’s Next for Green Button and SGIP?

The idea of standardizing energy usage information and making it available to consumers through a Green Button has come a long way in a few short years. However, there is much work yet to be done.

The SGIP Governing Board is establishing a new priority action plan, “Green Button ESPI Evolution,” to help support the electric industry’s expanding implement of Green Button. For more information about the new PAP, please visit the collaborative TWiki website, (<https://collaborate.nist.gov/twiki-sggrid/bin/view/SmartGrid/GreenButtonESPIEvolution>).

John McDonald, chair of the Governing Board, said, “SGIP members can take great pride in the critical role that we’ve played—and will continue to play—to ensure that Green Button information is readily

available and useful to consumers. This is just one example of the important work our organization is doing to advance the development of the Smart Grid.”

Governing Board Meeting Reflects Expanding Scope and Accelerating Pace of SGIP Activities

Meeting this week in Charlotte, NC, at the SGIP’s Spring Face-to-Face meeting, the Governing Board of the Smart Grid Interoperability Panel (SGIP) dealt with a wide range of issues, from the Green Button Initiative and new standards for the Catalog of Standards to international outreach and the future business model for the SGIP itself. The breadth and depth of SGIP activities highlighted during the Governing Board’s meeting demonstrate the very significant progress the organization has made since its establishment in late 2009.

Priority Action Plans and Standards

The Governing Board, after reviewing the surge of recent actions and key SGIP role in responding to the White House’s Green Button Initiative, took steps toward establishing a new Priority Action Plan (PAP), “Green Button ESPI Evolution,” to further support the standardization and implementations of the Green Button and its underlying standards, the NAESB Energy Service Provider Interface (ESPI) and PAP10 Energy Usage Information. (See related White House news release at <http://www.whitehouse.gov/administration/eop/ostp/pressroom/03222012>.) The Governing Board also reviewed another proposed PAP, “ISO RTO / Wholesale Market Interfaces for Demand Response (DR),” that seeks to build a profile for the ISO/RTO-to-market-participant (utility, 3rd party aggregator) interface. The Governing Board will vote next week, by electronic ballot, on both PAP proposals; final approval is expected by April 2.

The Governing Board reviewed three standards for inclusion in the Catalog of Standards (CoS): Communication Networks and Systems in Substations (IEC 61850);

- Standard Demand Response (DR) and Distributed Energy Resources (DER) Signals (OASIS Energy Interoperation v1.0); and
- Standard for Common Format For Event Data Exchange (COMFEDE) For Power Systems (IEEE C37.239-2010).

The Governing Board will vote in the coming weeks, by electronic ballot, on whether to recommend these three standards for inclusion in the CoS. The standards will then be voted on by the full SGIP membership.

Outreach to International Partners and to Natural Gas Industry

The Governing Board continued to expand its international outreach to standards-related organizations around the world. Highlighting this growing activity was the signing of a Letter of Intent (LOI) with the Japan Smart Community Alliance (JSCA) in close collaboration with Ministry of Economy, Trade and Industry (METI). The agreement encourages the sharing of information and lessons learned, with a special focus on smart communities and microgrids. (See picture below.)

The Governing Board heard a report on the recent collaborations with the European Union's (EU) Smart Grid Coordination Group (SG-CG) that have followed the signing, in December 2011, of a formal LOI (see http://collaborate.nist.gov/twiki-sggrid/pub/SmartGrid/SGIPMemberNews/1209_SGIPNews.pdf). The Governing Board International Task Force (GBITF) reported that LOIs are also being drafted with Ecuador and Colombia. In addition, the Governing Board heard a report summarizing recent increased SGIP collaboration with the International Electrotechnical Commission (IEC).

While the SGIP continues to reach out across international borders to collaborate on standards-related activities, it is also beginning to reach out across industry borders. The Governing Board heard a report from Christopher Zialkowski of the Gas Technology Institute (GTI) about GTI's new Smart Grid program for the natural gas grid. Following discussion on the topic, the Governing Board voted to appoint a task force to develop a proposal for a new Gas Technology Working Group to coordinate Smart Grid standards between the electricity grid and the natural gas grid.

Looking to SGIP's Future: Business Sustainment Model and Value Propositions

In a continuation of a discussion begun at its January meeting, the Governing Board heard a report from the Business Sustainment Plan Working Group (BSPWG), a group charged with the goal of developing and implementing a plan for SGIP to become self-sustaining, assuming minimal/modest government funding, commencing in January 2013. Version 1.0 of the plan is nearing completion and will be distributed for review and comment next week. As the BSPWG receives feedback over the next two months, additional iterations of the plan will be developed, with a goal of finalizing the plan and beginning implementation in June 2012.

As the Governing Board looks to the future, the Communications, Marketing and Education Working Group (CMEWG) is conducting outreach to SGIP members that will lead to value propositions for the SGIP as an overall organization and for its stakeholder groups. A dedicated workshop is planned as part of the Spring Face-to-Face agenda and is being led by the CMEWG team. This workshop, named "What's in it for me?", supports the critical activity of teasing out the value that SGIP membership brings to the various stakeholder communities supported within this diverse organization. A preliminary report on that research was presented to the Governing Board, with a more complete report expected prior to the May meeting.

One additional resource for the Governing Board as it shapes the future of the SGIP is to leverage the expertise of the Smart Grid Federal Advisory Committee (SGFAC), a 15-member high-level group that provides input to the NIST on its Smart Grid program, including the SGIP. Dan Sheflin, SGFAC Chair, summarized the SGFAC's first report, which included recommendations for the NIST Smart Grid work, both short- and long-term.

Additional information about the Governing Board's March meeting is available online (<http://collaborate.nist.gov/twiki-sggrid/bin/view/SmartGrid/SGIPGBMeetingsAndMinutes>).



Hiroshi Watanabe (Executive Director, NEDO, and Secretary General, JSCA) and John McDonald (Chairman, SGIP Governing Board) shake hands after signing Letter of Intent. Looking on (background, left to right) are Steve Widergren (Chair, SGIP Plenary) and George Arnold (National Coordinator for Smart Grid Interoperability, NIST).

SGIP Face-to-Face Meeting

A full recap of this week's Face-to-Face meeting in Charlotte will be published in next week's SGIP News. You won't want to miss all the details!

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